Agrosearch Vol 4, Nos 1 & 2, 1998 pp 46 - 51

CONSUMPTION PATTERN OF BEEF: A SURVEY OF SELECTED MEAT RETAIL SHOPS IN ILORIN, KWARA STATE

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ABSTRACT

The study analyzed the pattern of beef consumption behavior among a sample of 179 consumers who patronize meat retail shops in Ilorin metropolis, Kwara State. The influences of various socio-economic factors on quantity of beef consumed per month by households were estimated using OLS. Level of education of household head, household income, and household size were found to be statistically significant variables explaining variation in beef consumption. Household size and household income elasticity's were estimated from the lead equation (double-log function) they were found to be 0.24 and 0.37 respectively.

The study revealed that the vast majority of meat shop patrons were well-educated professionals and civil servants. This is probably due mainly to the relatively more hygienic and conducive atmosphere for buying meat provided by the meat retail shops. Standard measures in use also eliminated the time spent haggling in open markets.

KEYWORDS: **Consumption, Beef, Meat retail shops**

INTRODUCTION

Nigeria is a nation with a critical need to expand its agricultural production especially livestock production. Beef is an important source of protein in Nigeria. It constitutes close to 70 percent of all meat consumed. With an annual population growth rate of close to three percent, Nigeria population is expected to double in the next 30-35 years. This situation highlights the need for increased livestock production.

Although the Nigerian economy was very buoyant in the 60's and early 70's people consumed far below the recommended value of daily per caput intake of protein. For instance in 1968, animal proteins contributed only 6.8 grams of an estimated 51.7 grams daily per kaput protein supply to the average Nigerian diet (FAO 1966; FAO 1972; Olayide *et al* 1975) This went down to an estimated 6.3 grams of a total

of 45.1 grams in 1976 (FLD, 1984). Given the very precarious state of our economy it is likely that Nigerians will continue to suffer from acute protein shortage for some time to come.

Beef retail shops are relatively new in this part of the world. They provide meat in very hygienic environment and meat is sold on the basis of weights. This study examines the kinds of people that patronize these shops and highlights the major determinants influencing their beef consumption pattern.

The study is based on a field survey conducted between the fourth quarter of 1995 and first quarter of 1996. Data were collected by means of a well structured questionnaire and participant observatory technique. A total of 179 household heads and 14 meat retail shop managers were interviewed.

2. OVERVIEW OF BEEF MARKET IN ILORIN

As a background to this study, some characteristics of different economic agents intervening in the beef market are examined. The said agents include consumers, meat shop owners, and the government.

The authors noted that in general the marketing of beef can be said to be more efficient in the retail shops as compared to the open market.

Operations performed by beef retail shops included buying of cattle, slaughtering and selling of beef. In some cases the shops also sell fish, pork, goat meat, chicken and shrimps. The shops get their cattle from various sources, these include the local cattle market, northern parts of Nigeria, and in a few cases from neighboring countries, especially Republic of Benin which shares a border with the northern parts of Kwara State. Cattle is usually bought through face to face bargaining with the cattle dealers/agents to arrive at mutually acceptable prices. The price paid is determined by among other things, the size of the cattle, its state of health, age, and the cash needs of the owner. In general however, cattle are usually classified into small, medium and large.

An important feature of the operation of most meat shops is the availability of slaughter slabs usually near the shops. The operators of the beef shop usually kill, dress and weigh the carcass, which is then kept in a deep freezer awaiting customers. Sale is done in all the shops by means of a weighing scale. A kilogram of beef (at the time of the survey) costs between N140 and N160. An average of six persons were involved in the operation of the meat retail shops with only one or two involved on a permanent basis.

Major problems encountered in these shops include power failures especially for operators without stand by electricity generating plants, poor storage facilities, poor sales and the ever-increasing cost of obtaining cattle.

The local and state government are involved in ensuring

that good quality and disease free beef is marketed for consumption. Officials from the State Ministry of Agriculture inspect the premises and animals before and after slaughter. The diseased parts are discarded. All meat shops are also required to formally register with the ministry of Agriculture before they can commence operation. The vast majority of meat shop patrons were well educated: 65 percent of the respondents were university or polytechnic graduates, while 32 per cent had either gone through trade school or secondary schools, only 3 per cent had no formal education. Consumers pointed to the generally more conducive atmosphere for buying and selling in meat shops as being the major reasons they patronize them. They further noted that at any given time the price per kilogram of beef is known, so all they do is ask for the cut and quantity of beef they want and pay, instead of haggling as is done in more traditional beef markets.

The average monthly income of households that patronized beef retail shops was N5, 010.44 out of which N2, 738 was spent on feeding an average of 6 persons, with about 23 percent of total monthly expenditure on food being spent on beef.

3. BEEF CONSUMPTION PATTERN

It is postulated that the quantity of beef consumed in a household is a function of household size, total household income, quantity of close substitute like fish consumed, level of education of household head and price of the beef itself. Since the study area is geographically contiguous and the data collected cross-sectional, it can be safely assumed that price of beef would not vary much from household to household and as such the price variation can be ignored. The model employed in the study can therefore be represented as:

$Q = f(X_1, X_2, X_3, X_4, U)$

where Q = Quantity of beef consumed per month (kg)

X_1 = Head of Household's level of education (Dummy variable) – It takes the value of 1 if the household head is a graduate and 0 otherwise

X_2 = Household size

X_3 = Total household income per month (N) [1]

X_4 = Quantity of fish consumed by the household per month (kg)

U = Error Term

This beef consumption model was run utilizing the linear, double log and semi-log functions. The result of the estimated regression coefficients are shown in Table 1.

Table 1 reveals that all the regressions account for between 26 and 48 per cent of the variability in beef consumption. Based on the values of R^2 and the significance of the variables, equation 2 is chosen as the lead equation.

The lead equation indicates that the level of education of the head of household (X_1), household size (X_2) and total household income (X_3) are

(1) Since a large proportion of the respondents are salary earners, household income was used instead of household expenditure

highly significant explanatory variables that explains the variation in beef consumption (Q). However, contrary to the a priori expectation, the influence of the level of education of the head of household on beef consumption is negative. In other words, the more people are educated, the less they consumes beef. The quantity of fish consumed (X_4) is not statistically significant. Thus the soaring prices of beef and food items in general in the market vis-à-vis a constant income might have constrained the consumers to rearrange their scale of priority regarding food items. Therefore, beef and animal protein in general appear to be loosing their importance to other sources such as cowpea, soybeans melon and vegetables. The more educated people are the more they seem to be aware of these alternatives.

Estimates of beef consumption elasticity are presented in Table 2.

These elasticities were positive, implying that as income or household size increases, a consumer buys more of beef. However, their relatively low values (0.24 for income elasticity and 0.37 for household size elasticities respectively) indicate that beef consumption is inelastic. In other words, a unit change in income (or household size) would lead to a relatively lower change in quantity of beef purchased by the household. This can be explained by the fact that income is increasing at very low rate compared to the rate at which beef price is increasing in the market.

To determine the relative importance of each explanatory variable, beta coefficients are computed. The result is shown in Table 3.

Judging from the magnitude of the Beta coefficients, household size (X_2) is the most important factor influencing beef consumption, followed by the level of education of the head of household (X_1). The quantity of fish consumed by the household per month (X_4) is the least important variable.

CONCLUSION

In this study, beef market and consumption pattern in Ilorin was analyzed. The study shows that beef consumption responds positively but rather at a very slow rate to the changes in income and household size, and negatively to the level of education of the head of household. The soaring cost of cattle in the market, with the attendant result of ever-increasing price of beef, has put beef beyond the reach of the majority of the citizens in the town. People now opt for "alternatives" which are actively sought for by the well-educated persons.

This situation has to be remedied urgently, for even in the 70s when the economy was booming, the animal protein intake of the population was far below the recommended level. Today it has drastically fallen.. Nutritionally, crop or vegetable protein should not be regarded as perfect substitutes for

animal protein. The two sources complement each other for the well being of the consumer. In the light of the above, this study suggests that state and local governments should encourage meat shop owners to participate in fattening program, whereby they will purchase young cattle in large numbers at reduced cost and then graze them intensively on improved pastures and feed supplement, to increase their weight before they are slaughtered. This will increase the margin of profit of meat shop owners, encourage people to go into the industry, reduce retail prices and improve services provided to consumers. In addition, it is necessary among other things, to intensify extension education which should aim at increasing the awareness of the population regarding the importance of animal protein intake

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Regression coefficient for beef consumption in Ilorin

ation	Form of Equation	Constant	X_1	X_2	X_3	X_4	R^2	F Value
	Linear	5.6205	1.8684* (1.0176)**	0.5284** (0.1461)	0.0022* (0.0012)	0.0363 (0.0851)	0.26	7.8833
	Double - Log	-0.0548	-0.4503** (0.1636)	0.3653** (0.0987)	0.2434** (0.0665)	0.0024 (0.0598)	0.48	18.7743
	Semi-log	-1.7347	-8.383** (3.1291)	4.987** (1.8880)	2.5582* (1.2712)	0.4807 (1.1432)	0.30	9.4119

** Significant at 1% level * Significant at 5% level

Figures in parenthesis are the standard errors.

2 – **Elasticities of beef consumption with respect to income and household size**

Equation N0.	Income Elasticity	Household-size Elasticity
2	0.24	0.37

3 - **Ranking of Beta Coefficients**

Variables	Beta Coefficient	Rank
Household size (X_2)	0.28947	1
Level of education of the head of household (X_1)	0.26911	2
Household monthly income (X_3)	0.22825	3
Quantity of fish consumed per month (X_4)	0.04075	4